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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,479	03/25/2005	Xuanming Shi	88538.0001	4490

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EXAMINER

CHOWDHURY, AFROZA Y

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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01/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,479

Applicant(s)

SHI, XUANMING

Examiner

Afroza Y. Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment received on **January 1st, 2008** has been entered. Claims 21-32 are currently pending. Applicant's amended claims and arguments are addressed herein below.

Claim Objections

2. Claim 23 objected to because of the following informalities: Claim 23 cannot depend on cancelled claim 1. If the claim 23 is amended, then new lines needs to be underlined. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 23, "**antenna array cells are printed on the two sides of the membrane surfaces respectively**", it is not clear. How many membrane surfaces are present there.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 21 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of **U.S. Patent No. 7,268,771**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the concepts of both claims are same.

For example, both claims are about display panel with touch control function and an input pen is present that has a radio signal or electromagnetic wave generation device. Both have a covering layer, an induction layer, and a bottom support layer. Base layer of the electromagnetic induction generation layer is an insulated flexible membrane, the surfaces of the membrane are printed with an electromagnetic induction

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antenna array, and the output of that electromagnetic induction generation layer is connected to the recognition controlling circuits.

The US Patent 7,268,771 did not specifically states a blackboard system and induction layer. However, it is obvious to one skill in the art to recognize that US Patent 7,268,771's touch screen and indication section is the same as Applicant's blackboard and induction layer.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21-25, 27-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Omura et al.** (US Pub. US 2002/0008692) in view of **Inou** (US Patent 6078274) and in further view of **Teterwak** (US Pub. 2001/0055005).

As to claim 21, Omura et al. discloses an electronic blackboard system including an electronic blackboard main unit (page 6, [0109], fig.1, PDP(101)) having a writing layer (fig. 2(201), page 7, [0113]) as surface (Note: PDP stands for plasma display panel),

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a bottom support bracket layer (fig. 7, page 8, [0133], rear surface of panel section 601) as bottom,

an input induction section (fig. 4), a recognition controlling circuit (fig. 1, page 8, [0133], controller 103),

a signal output device (page 7, [0122], A/D converter) inside between the said two layers and a frame around (fig. 6(601)) page 8, [0131], panel section),

and also including an input pen (page 6, [0109], [0113]),

characterized in that: said induction section is composed of a covering layer (page 7, [0116] - [0117]),

an electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) and a bottom support bracket layer (fig. 7, page 8, [0133], rear surface of panel section 601),

wherein the base layer (page 7, [0118], board 200) of the electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers),

the surfaces of membrane are printed with an electromagnetic induction receiving antenna array (fig. 4, (203, 207), receiving transducers) which is induction antenna cells distributed along X axis and Y axis, thereby a flexible membrane electromagnetic induction generating layer is constituted,

the output of that electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) is connected to the recognition controlling circuit (fig. 1, page 8, [0133], controller 103).

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Omura et al. does not teach an insulated flexible membrane and an input pen that has a radio signal generating device.

Inou discloses a flexible insulating substrate made of a polymeric film (fig. 1(3), 12(3), col. 4, lines 20-28, col. 11, lines 14-21).

Therefore, it is obvious to one skill in the art at the time of the invention was made to include Inou's flexible insulating substrate into the electronic blackboard system of Omura et al. in order to make a flexible electromagnetic induction generating layer.

Omura et al. (as modified by Inou) does not teach an input pen that has a radio signal generating device.

Teterwak teaches a digitizer system including a stylus (fig. 1(104)) that propagates RF (radio frequency) signals and a controller circuit is implemented in the pen (fig. 2(200), page 1, [0004], [0019]).

Therefore, it would have been obvious to one skill in the art at the time of invention was made to combine Teterwak's digitizer system with radio frequency stylus with the electronic blackboard system of Omura et al. (as modified by Inou) because this will provide an energy efficient high voltage oscillator for battery powered electronic pen used with an electrostatic digitizing table (Teterwak, page 1, [0002])

As to claim 22, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said recognition controlling circuit (fig.1, page 8, [0133], controller

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103, in Omura et al.) is set on a PCB (printed circuit board), and the antenna's output port of said flexible membrane electromagnetic induction generating layer (fig. 4(202, 206, in Omura et al.), transmitting transducers) is spliced or plugged or welded to the corresponding input pin on the PCB (printed circuit board).

As to claim 23, Omura et al. (as modified by Inou and Teterwak) discloses an electronic blackboard having electromagnetic induction generating device, characterized in that: said induction antenna array cells (fig. 4(202, 206), transmitting transducers, fig. 4, (203, 207), receiving transducers, in Omura et al.) are printed on the two sides of the membrane surfaces respectively.

As to claim 24, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: more than one layer of induction antenna cells along X axis and Y axis are printed (fig. 4) on the two sides of the membrane surfaces and the layers are insulated from each other.

As to claim 25, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: the intervals between the induction antenna cells of each layer can be uniform or different for more than one layer of induction antenna cells (fig.4, in Omura et al.).

As to claim 27, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: a shielding layer can be provided behind said electromagnetic induction generating layer to increase the anti-interference capability (page 7, [0115]).

As to claim 28, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said signal output device is a cable connecting device (page 8, [0127], modem, in Omura et al.) or a wireless data communicating device (page 8, [0127], network card, in Omura et al.).

As to claim 29, Omura et al. (as modified by Inou and Teterwak) discloses an electronic blackboard having electromagnetic induction generating device, characterized in that: said cable connecting device (page 8, [0127], modem, in Omura et al.) is a cable having USB joint interface and said wireless data communicating device (page 8, [0127], network card, in Omura et al.) is a radio frequency transceiver.

As to claim 30, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said signal output device is connected to a computer and/or a

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printer and/or a data storing equipment directly (page 8, [0127] - [0129], in Omura et al.).

As to claim 32, Omura et al. (as modified by Inou and Teterwak) teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said radio signal generation device of the writing input pen (fig. 1(104)) has a RF generating (fig. 2(200), page 1, [0019], in Teterwak), corresponding RF receiving device is provided on the whiteboard main unit (fig. 1(102), page 1, [0018], digitizer tablet, in Teterwak).

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Omura et al.** (US Pub. US 2002/0008692) in view of **Inou** (US Patent 6078274) and in further view of **Teterwak** (US Pub. 2001/0055005) and **Nakano et al.** (US Patent 7091909)

As to claim 26, Omura et al. (as modified by Inou and Teterwak) teach an electronic blackboard, but he does not teach an induction antenna cell is made of silver paste material or mixture material of silver paste and carbon paste.

Nakano et al. discloses an idea of making antenna with silver paste (page 3, lines 25-33)

Therefore, it would have been obvious to one skill in the art at the time of invention was made to include Nakano's Silver paste antenna cell into the electronic blackboard system of Omura et al. (as modified by Inou and Teterwak) since this will

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provide broadening bandwidth with superior electrical, thermal, and mechanical properties.

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Omura et al.** (US Pub. US 2002/0008692) in view of **Inou** (US Patent 6078274) and in further view of **Teterwak** (US Pub. 2001/0055005) and **Nakano et al.** (US Pub. 2002/0074171).

As to claim 31, Omura et al. (as modified by Inou and Teterwak) does not teach a pen that has an electromagnetic wave generating device.

Nakano et al. discloses a pen (fig. 3(30), (33)) that generates electromagnetic wave (page 3, [0038]).

Therefore, it would have been obvious to one skill in the art at the time of invention was made to combine Teerwak's technique of making pen with the electronic blackboard system of Omura et al. (as modified by Inou and Teterwak) to build an electronic whiteboard system comprising a stylus that generates both radio signal and electromagnetic wave.

Response to Arguments

11. Applicant's arguments filed **January 1st, 2008** have been fully considered but they are not persuasive.

Applicant argues that Omura, Teterwak, and Nakano do not disclose, "the input induction section" which is "an insulated flexible membrane" made by "a film material".

However, Inou teaches a flexible insulating substrate made of a polymeric film (fig. 1(3), 12(3), col. 4, lines 20-28, col. 11, lines 14-21). It can be used to make a flexible electromagnetic induction generating layer.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afroza Y. Chowdhury whose telephone number is 571-270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1/22/2008


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